

REMARKS

Claims 1-9, 36-37, and 59-68 stand rejected in the Office Action dated December 30, 2009. Claims 1-7 and 59-66 stand rejected under 35 U.S.C. §102, and claims 8, 9, 36, 37, 67, and 68 stand rejected under 35 U.S.C. §103. The independent claims under present consideration are claims 1, 36, 59, and 69. Claims 35, 42-58, and 69 were previously withdrawn from consideration. Therefore, following entry of the present response, claims 1-69 will be pending in the present application with claims 16-35, 42-58, and 69 withdrawn from consideration.

Applicants would like to thank the Examiner for indicating that claims 10-15 and 38-41 would be allowable if rewritten to include all of the limitations of the base claims. However, Applicants believe that claims 1 and 36, from which claims 10-15 and 38-41 depend either directly or indirectly, are allowable for the reasons described below.

Claim Rejections – 35 U.S.C. §102(e)

Claims 1-7 and 59-66 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,849,040 (“Ruohonen”).

The claims recite a TMS coil for using a magnetic field to provide transcranial magnetic stimulation (TMS) treatment to a patient. A sensor is located between the TMS coil and the patient where pulses are to be applied to detect the proximity of the TMS coil to the position. The sensor assists in a proper disposal of the TMS coil with respect to the treatment position.

The office action likens Ruohonen’s sensor that can be mounted on a pair of eyeglasses to the recited sensor that is disposed between the TMS coil and a position of treatment (Office Action, page 2). However, in contrast to the claims, Ruohonen’s sensor does not itself detect the proximity of the TMS coil to the position of treatment and is not placed between the TMS coil and the treatment position.

With regards to the location of Ruohonen’s sensor, the office action refers to Ruohonen’s description that the sensor “may be mounted on the shafts of eyeglasses” (Ruohonen, col. 5, lines 1-2). However, there is no indication that the location on the eyeglasses is at a position between the TMS coil and the treatment position, and there is no

other teaching in Ruohonen that teaches the recited placement of the sensor. In fact, Ruohonen's Fig. 1 depicts the subject sensor having three fiducials (Ruohonen, Fig. 1, set of fiducials near the patient's head labeled 6), and none of the three fiducials that make up the sensor (one on each eyeglasses shaft and one on the person's chin) are shown positioned between the TMS coil and a position of treatment. Further demonstrating this is the picture on Screen 4 in FIG. 1, which depicts a picture taken of the areas on the patient's head that are to be stimulated (Ruohonen, col. 4, lines 44-46). Screen 4 indicates a treatment position that is on the forehead of the patient, but none of the three fiducials of Ruohonen's sensor are located between the TMS coil and the treatment position (*i.e.*, the patient's forehead). Thus, Applicants submit that a mere description in Ruohonen that a sensor may be placed on a patient's eyeglasses does not teach a placement of the sensor in a position between the TMS coil and treatment position.

Further, unlike the claims that recite a sensor that detects proximity, Ruohonen explicitly describes that each sensor is a *position* sensor, that senses only *position* or *alignment* (col. 4, lines 66-67). The office action states that positional data can show proximity of a coil to a particular position on the patient and that the fiducials placed around the coil and patient provide positional data. However, Ruohonen's fiducials, individually or collectively, do not detect a proximity between the TMS coil and sensor.

In particular, a single fiducial in Ruohonen, such as a single fiducial found on a shaft of the eyeglasses, merely senses and provides a single position that is specific to that fiducial. A single fiducial position, alone, is not a detection of a proximity between the TMS coil and the fiducial. Likewise, the three individual positions sensed by each of the three fiducials that makes up a sensor are used merely to generate a model of the head in a 3-dimensional space (Ruohonen, col. 5, lines 20-21; FIG. 1). A model of the head in the 3-dimensional space is not a proximity between the TMS coil and the sensor. Thus, the three fiducials that collectively make up the position sensor do not detect a proximity between the TMS coil and the sensor.

To use positional data to compare a position of the TMS coil and the head of the patient, Ruohonen requires another position sensor having an additional three fiducials placed on the TMS coil, and the inputs from all six fiducials must then be translated to the same coordinate system for a relative comparison. However, still, neither sensor and none of the

fiducials, none of which are located between the TMS coil and treatment position, are capable of themselves detecting a proximity. Rather, each of the fiducials located around the head and each of the fiducials located around the TMS coil merely provide a position for input into a 3-dimensional model of each of the head and TMS coil, respectively. Thus, each fiducial still only detects a single position, and each sensor still only provides a model of a 3-dimensional space that, by itself, does not indicate a proximity between the TMS coil and a treatment position. Thus, the fiducials and/or the sensors alone do not detect a proximity.

The claims, on the other hand, recite a sensor that itself can detect the proximity between the TMS coil and a treatment position. Just one example described in the Specification is that the sensor disposed between the TMS coil and treatment position may detect contact, such as by detecting a pressure applied.

Therefore, because Ruohenen fails to disclose a sensor disposed between the TMS coil and the position at which pulses are to be applied, where the sensor detects proximity of the TMS coil to the position, Applicants respectfully submit that Ruohenen does not anticipate either of claims 1 or claim 59.

Accordingly, Applicants respectfully submit that the claims that depend from claim 1, presently rejected claims 2-7 and allowable claims 10-15, and the claims that depend from claim 59, claims 60-66, also patentably define over the cited reference. Applicants request withdrawal of the rejection of claims 1-7 and 59-66 under 35 U.S.C. 103(a) and withdrawal of the objection to allowable claims 10-15.

CONCLUSION

For the foregoing reasons, Applicants respectfully submit that all of the claims of the present application patentably define over the prior art of record. Reconsideration of the Office Action and a Notice of Allowance are respectfully requested. In the event that the Examiner cannot allow the present application for any reason, the Examiner is encouraged to contact the undersigned attorney, Lori Swanson at (215) 564-8997 to discuss the resolution of any remaining issues.

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